9-1 GENERAL: CMTC does not currently replicate nuclear or biological weapons on the battlefield. The OPFOR will employ chemical weapons IAW OPFOR Doctrine (FM 100-60 series) during its conduct of operations. Any O/C can observe and control the employment of chemical weapons.

9-2 PURPOSE: This chapter addresses chemical agent use, casualty assessment, reconnaissance, decontamination, smoke operations, CDE, chemical attacks and special considerations for aviation.

9-3 CHEMICAL AGENTS:

a. **OPFOR CAPABILITIES:** The OPFOR maintains an inventory of both non-persistent and persistent agents (H series blister and V series nerve agents).

b. **REPLICATION:** CMTC replicates both non-persistent and persistent agents with CS gas.

c. **DELIVERY MEANS:** Air or artillery delivered NBC agents are employed IAW threat doctrine.

d. **RELEASE AUTHORITY:** The COG is the only approving authority for chemical weapons. Thirty minutes prior to a chemical attack, the RTOC notifies the DTOC of their intentions to employ chemical weapons. DTOC notifies the Senior Brigade and/or TF O/C, and the Chemical O/Cs over OPS CMD 1.

e. **NON-PERSISTENT HAZARD:** The IS system determines the path of the downwind hazard using real world weather data.

(1) **CHEMICAL DOWNWIND MESSAGES:** The Air Force Weather Squadron at HAAF calculates and disseminates Chemical Downwind Messages (CDMs) every six hours based on actual weather conditions.

(2) A 1 kilometer diameter ICON represents the initial non-persistent contamination cloud in the IS system. This will transform into a 1 kilometer square as the agent builds, and spreads as a 1 kilometer wide rectangle IAW the weather and wind conditions. SAWE notifies vehicles equipped with MILES II as they come into contact with the chemical hazard.

(3) O/Cs provide a signature with a CS grenade. Additional CS grenades will be used to provide a signature to BLUFOR as the chemical cloud moves downwind.

f. **PERSISTENT HAZARD:** The IS system represents a persistent agent strike using a 500-meter radius ICON circle. SAWE notifies all vehicles equipped with MILES II as they come into contact with the chemical hazard. O/Cs provide a signature using CS grenades.

g. **CHEMICAL AGENT USE:**

(1) Fire Markers or O/Cs replicate chemical attacks at the point of impact with CS grenades and air or ground burst simulators, and smoke.

(2) The following list defines exposure to a chemical hazard:

a. Activation of the M8A1 Chemical Agent Alarm, (nerve agents only).

b. Employment of CS.

c. Positive M256 Detector Kit reading.

d. Casualty assessment of unprotected personnel.

e. Unit's employment of NBC protective measures upon receipt of a NBC 3 report.

h. **NON-PERSISTENT AGENTS:**

(1) Non-persistent agents present a vapor hazard only.

(2) Contamination affects all BLUFOR and OPFOR unit personnel within the attack and downwind hazard area.

(3) The attack area is a 1 square kilometer area, regardless of wind speed.

(4) BLUFOR NBC personnel will calculate the downwind hazard of a non-persistent chemical agent IAW the procedures outlined in FM 3-3.

(5) The duration of the non-persistent agent attack vapor hazard is 30 minutes in the summer, 45 minutes in the spring and fall, and 60 minutes in the winter. The fire support TAF calculates times from the start of the attack.

i. **PERSISTENT AGENTS:**

(1) Persistent agents present a vapor and contact hazard in the attack area. A contact hazard is also present anywhere contaminated vehicles and/or personnel travel.

(2) The hazard area is a 500-meter radius circle, regardless of wind speed or delivery means.

(3) Within their capabilities, O/C Teams will keep the contaminated area under observation.

(4) O/Cs, with the help of the TAF, will track and monitor contaminated but

protected (non-casualty), vehicles to assess the possible spread of contamination through direct contact.

(5) Contaminated areas become clear IAW change of mission instructions provided by the DTOC.

(6) Vehicles and personnel do not become clear until decontamination operations have been completed IAW applicable FMs. See para 9-5.

9-4 CASUALTY ASSESSMENT:

a. **GENERAL:** CMTC assesses chemical casualties based on the tactical situation and the BLUFOR reaction to a chemical hazard.

b. **ASSESSING CASUALTIES:** Casualties are assessed IAW Table 9-3.

(1) When assessing chemical agent casualties, O/Cs will issue the casualty a CMTC Chemical Casualty Card.

(2) O/Cs transfer the information from the heading of the soldier's MCC to the heading of the chemical casualty card.

(3) O/Cs record the DTG of issue, O/C call sign, and initials on the chemical casualty card.

c. **CASUALTY TYPES:** The chemical casualty levels are RTD, W (wounded), U (urgent-litter required), and KIA. See Table 9-3 for definitions.

d. **UNPROTECTED PERSONNEL:** In the attack area during a persistent or non-persistent chemical strike become casualties.

e. **PROTECTED PERSONNEL:** Do not become chemical agent casualties in a persistent chemical attack, the soldiers and vehicles do become contaminated ("protected contaminated"). Protected contaminated soldiers and vehicles risk spreading contamination across the battlefield.

f. **CONSTRAINT ON RTDs:** If a soldier receives a NBC RTD, that soldier may not assist his/her unit in any way for one hour.

g. **OPFOR ASSESSMENT:** If an OPFOR vehicle enters the contaminated area, the vehicle is automatically a catastrophic kill and the OPFOR soldiers are KIA.

h. **EVACUATION OF CHEMICAL CASUALTIES:**

(1) The condition of all chemical agent casualties will worsen if not rendered the proper self or buddy aid within doctrinal timelines. If the casualty dies due to lack of proper care, the medical O/C will assess the casualty as Died of Wounds (DOW).

(2) Casualties that are Chemical KIA due to persistent agents continue to present a contact hazard until decontaminated. These personnel may only re-enter the replacement system once the unit has conducted appropriate mass burial procedures and provided the necessary equipment.

(3) Casualties that are Chemical KIA due to non-persistent agents do not spread contamination and do not require decontamination.

9-5 CHEMICAL DECONTAMINATION:

a. **GENERAL:** All personnel and equipment contaminated must complete decontamination operations.

b. **DECON REQUIRED:** All BLUFOR units contaminated with a non-persistent agent must undergo decontamination and MOPP Gear Exchange to reduce MOPP level. All BLUFOR units contaminated with a persistent agent must undergo Operational or Thorough Decontamination and MOPP Gear Exchange to reduce MOPP level.

c. **EFFECT OF CHANGE OF MISSION:** Change of mission has no effect on the requirement for decontamination.

d. **CONDUCT OF THE DECON:**

(1) Water replicates decontaminating solution 2 (DS-2). Fill decontamination equipment from any source prior to entering the maneuver area. Once in the maneuver area fill decontamination equipment only from containers (unit supplied) labeled as containing DS-2.

(2) Talc or sand (unit supplied) replicates Super Tropical Bleach (STB). Use STB for "dry" decontamination only (shuffle pit, individual gear decontamination). To use STB slurry mix, the decontamination platoon must transport the appropriate number of containers of STB to the decontamination site.

(3) A card with "MOPP GEAR EXCHANGE" replicates a soldier's individual chemical equipment package (ICE Pack) for MOPP Gear Exchange.

(4) The FSB logistics personnel will draw the MOPP GEAR EXCHANGE cards and issue them through normal supply channels. Task Force supply personnel will issue the MOPP GEAR EXCHANGE cards

to the individual companies on a one-card per soldier basis.

(5) When ready to don new MOPP Gear, BLUFOR soldiers will give the MOPP GEAR EXCHANGE card to an O/C at the MOPP Gear Exchange site and re-don their existing MOPP Gear. The O/C will record the DTG of MOPP Gear Exchange and their Call Sign and initials on the card and retain the card.

(6) Once an element completes MOPP Gear Exchange, the O/C responsible for that element will instruct that element to move 1 km from the MOPP Gear Exchange site and conduct unmasking procedures. If the element conducts unmasking procedures with a M256 Kit, issue the element an "all clear (T-400)" M256 kit. Allow the soldiers to go "all clear" upon successful execution of unmasking procedures. Turn all expended MOPP Gear Exchange cards over to the Chemical O/C.

e. **WAIVER AUTORITY:** Only the COG or his designated representative (the Senior Task Force O/C) may waive the requirement for decontamination.

9-6 CHEMICAL RECONNAISSANCE:

a. **GENERAL:** Units will conduct chemical reconnaissance operations as close as possible to doctrine, while avoiding damage to the M-93 FOX vehicle's sensitive equipment.

b. **O/C ASSISTANCE:** O/Cs following chemical reconnaissance assets will provide the reconnaissance vehicle crews cues, via FM radio, what type of contamination is present, when they detect an agent, and when the vehicles enter and exit the contaminated area.

9-7 SMOKE OPERATIONS:

a. **RESTRICTIONS:** The shaded areas along the boundary of the maneuver area depicted on the map of CMTC define the limits of smoke and CS grenade use. Generally, no one may use smoke or CS within 1.5 km of the CMTC-Hohenburg border or within 1 km of any other CMTC border. O/Cs will stop smoke/CS use if they determine the smoke/CS is drifting off post.

b. **SAFETY:** HC and CS smoke are dangerous. Personnel employing HC/CS smoke pots or grenades must wear their protective masks. Do not use HC/CS smoke in the vicinity of troops or civilians who do not have the capability to mask.

c. **FLAME FIELD EXPEDIENTS:** CMTC prohibits the use of actual exploding Flame Field Expedients (FFE), but BLUFOR may construct simulated FFEs using training demolitions; **NOT** Demolitions Effects Simulators (DES).

(1) Water simulates fuel and sand (unit provided) simulates thickener.

(2) O/Cs simulate ignition of FFEs with a hand grenade simulator.

(3) O/Cs will observe all FFE emplacements, ignite the FFEs, and assess casualties and vehicles IAW Table 9-4.

9-8 CHEMICAL DEFENSE EQUIPMENT (CDE):

a. **DEPLOYMENT REQUIREMENTS:** Units will deploy to CMTC with all organic CDE assets. The only CDE not required while deployed to CMTC are contingency stock items. Units are given credit for using their organizational NBC equipment if the items are present, operational, and employed in a doctrinally correct manner.

b. **PAPER CDE:** All units are credited with a second BDO/CPOG as long the soldier has the paper BDO/CPOG issued from the unit's supply channels with the words "MOPP Gear Exchange", and the unit has the required haul capacity.

9-9 SPECIAL CONSIDERATIONS:

a. **M256 CHEMICAL AGENT DETECTOR KIT:** Simulator replaces the actual M256A1 kit. When ready to perform detection, BLUFOR personnel must exchange their detector kit with one from an O/C. BLUFOR personnel will not use their own detector kit.

b. **NERVE AGENT ANTIDOTE KIT (NAAK-1):**

(1) A card with a picture depicting an Atropine Injector and a Pralidoxime Chloride Injector replicates the Nerve Agent Antidote Kit (NAAK-1).

(2) The FSB medical company will draw the NAAK-1s and issue them to battalion aid stations through Class VIII channels. The battalion aid stations will issue the NAAK-1s to the companies in the Task Force at a basis of three NAAK-1s per soldier.

(3) When employing the NAAK-1 soldiers will describe the proper procedure for

self or buddy aid using the NAAK-1 to an O/C. The O/C will record the DTG of administration and their Call Sign and initials on the card and return it to the soldier administering the aid.

(4) Soldiers place the expended NAAK-1 and CANA card(s) in the left breast pocket of the treated soldier's MOPP jacket. If the treated soldier requires further medical care, the medical O/C will retrieve the expended NAAK-1 and CANA card(s) from that soldier. Otherwise, the O/C covering down on that soldier's element will retrieve the card(s). Turn all expended NAAK-1 and CANA cards over to the Chemical O/C.

Table 9-1 Operational Decon Casualty Assessment

TIME REFERENCE	REMARKS
UP TO COM + 3	CONTAMINATED UNIT SHOULD COMPLETE OPERATIONAL DECONTAMINATION.
COM + 3 THRU COM + 4	ASSESS RTD CASUALTIES; CONTACT WITH CONTAMINATION/LIQUID PENETRATES MOPP.
COM + 4 THRU COM + 5	ASSESS WOUNDED CASUALTIES.
COM + 5 THRU COM + 6	ASSESS URGENT CASUALTIES.
COM + 6 AND LATER	ASSESS KIA CASUALTIES.

Table 9-2 M256 Test Kit

DETECTOR TICKET NUMBER	RESULT OF TEST
T-400	ALL CLEAR; NEGATIVE NERVE, BLISTER, AND BLOOD
T-401	POSITIVE NERVE (G) OR (V)
T-402	POSITIVE BLISTER (H) MUSTARD

Table 9-3 Chemical Agent Casualties					
AGENT	**EXPOSURE LOCATION**	**RETURN TO DUTY (RTD)**	**WOUNDED (W)**	**URGENT - LITTER REQUIRED (U)**	**KILLED IN ACTION (KIA)**
G AND V SERIES NERVE; H SERIES BLISTER	ATTACK AND HAZARD AREA	ENTERS AREA UNPROTECTED; DRIVER, TC, OR KEY PERSONNEL; MASKS IN 9 SECONDS OR LESS; BEGINS SKIN DECON WITHIN 1 MINUTE; DONS MOPP GEAR IN 8 MINUTES OR LESS	MASKS IN 10 TO 30 SECONDS; BEGINS SKIN DECON IN 1 TO 5 MINUTES; DONS MOPP GEAR IN 9 TO 12 MINUTES; WEARS OTHER ARTICLES OF CLOTHING IN LIEU OF ACTUAL MOPP GEAR	MASKS IN 31 SECONDS TO 1 MINUTE; BEGINS SKIN DECON IN 6 TO 10 MINUTES; DONS MOPP GEAR IN 13 TO 15 MINUTES	MASKS AFTER 1 MINUTE OR MASK NOT SEALED; BEGINS SKIN DECON AFTER 10 MINUTES OR NO SKIN DECON; DONS MOPP GEAR AFTER 15 MINUTES OR NO MOPP GEAR
V SERIES NERVE; H SERIES BLISTER	EXPOSURE BY CONTACT	DRIVER, TC, OR KEY PERSONNEL; BEGINS SKIN DECON WITHIN 1 MINUTE	BEGINS SKIN DECON IN 1 TO 5 MINUTES	BEGINS SKIN DECON IN 6 TO 10 MINUTES	BEGINS SKIN DECON AFTER 10 MINUTES OR NO SKIN DECON

Table 9-4 FFE Casualty Assessment		
DEVICE	**RANGE**	**ASSESSMENT**
VERTICAL FLAME MINE W/DETONATING CORD	80 METER DIAMETER	ALL PERSONNEL WITHIN DIAMETER; 50% OF WHEELED VEHICLES DAMAGED; NO DAMAGE TO TRACKED VEHICLES
HORIZONTAL FLAME MINE W/DETONATING CORD	80 METER DIAMETER	ALL PERSONNEL WITHIN DIAMETER; 50% OF WHEELED VEHICLES DAMAGED; NO DAMAGE TO TRACKED VEHICLES
5 GALLON FLAME DEVICE	25 METER DIAMETER	ALL PERSONNEL WITHIN DIAMETER; 10% OF WHEELED VEHICLES DAMAGED; NO DAMAGE TO TRACKED VEHICLES
55 GALLON FLAME FOUGASSE CONTAINER	200 METER DIAMETER	ALL PERSONNEL WITHIN DIAMETER; 50% OF WHEELED VEHICLES DAMAGED; NO DAMAGE TO TRACKED VEHICLES
BUNKER BOMB	10 METER DIAMETER	ALL PERSONNEL WITHIN DIAMETER; 5% DAMAGE TO WHEELED VEHICLES; NO DAMAGE TO TRACKED VEHICLES
PROPELLANT CHARGE CONTAINER	45 METER DIAMETER	ALL PERSONNEL WITHIN DIAMETER; 25% OF WHEELED VEHICLES DAMAGED; NO DAMAGE TO TRACKED VEHICLES